What is claimed:

1. A microwave system for stiffening a wet ceramic body comprising:

a microwave source for producing energy in the frequency range of 100 MHz to 30 GHz;

a microwave applicator comprising:

a chamber having a flow axis, an inlet, an outlet, and a support for transporting the extruded ceramic body along the flow axis, and,

a single waveguide feed for receiving microwaves from the microwave source,

wherein the microwave system is provided adjacent a die end of an extruder by which the ceramic body is formed, such that as the wet ceramic body leaves the extruder it immediately enters a field of microwaves.

2. A microwave system in accordance with claim 1 further comprising microwave attenuation means at the inlet or the outlet, or both of the chamber of the microwave applicator.

3. A microwave system in accordance with claim 2 further comprising impedance matching means provided between the single waveguide feed and the microwave source.

4. A microwave system in accordance with claim 3 wherein the impedance matching means include circulators and stub tuners.

5. A microwave system in accordance with claim 1 wherein the microwave energy is provided in a succession of TE_{xy} and/or TM_{xy} waveguide modes, where x is between 0 and 8, and y is between 1 and 3.

6. A microwave system in accordance with claim 1 wherein the chamber is composed of rectangular or square waveguide bent along its length at two 90° angles to form a "U"-shaped structure.

7. A microwave system in accordance with claim 6 wherein the inlet and outlet of the chamber are cylindrical.

8. A microwave system in accordance with claim 4 wherein the microwave applicator operates in the TE_{11} waveguide mode.

9. A microwave system in accordance with claim 1 wherein the chamber is composed of an inner cylindrical section, and an outer cylindrical section of larger diameter surrounding the inner cylindrical section in a diametrically stepped geometry;

wherein the outer cylindrical section includes the single waveguide feed;

wherein portions of the inner cylindrical section are cut-out to form a pair of adjacent curvi-planar segments, such that a first cut-out is adjacent the waveguide feed at the outer cylindrical section, and a second cut-out extends between the curvi-planar segments.

10. A microwave system in accordance with claim 9 wherein the microwave applicator operates in a succession of TE_{x1} waveguide modes, where x is between 3 and 4.

11. A method for stiffening a wet ceramic body comprising:

providing a plastically deformable material including an organic binder having a thermal gel point;

forming the plastically deformable material through an extrusion die to form the wet ceramic body;

passing the wet ceramic body through a field of energy having a frequency in the range of 100 MHz to 30 GHz; and,

heating the wet ceramic body to gel the organic binder.

12. A method in accordance with claim 11 wherein the plastically deformable material comprises cordierite-forming material.